REMARKS

In the aforementioned amendment, the drawings have been modified to address the Examiner's objection to the drawings. Claims 1, 2, 4-20, 22-36 and 38-53 are presently pending in this application, of which claims 1, 19, 35 and 53 are independent. Claims 1, 2, 4-20, 22-36, and 38-53 stand rejected. Applicants submit that pending claims 1, 2, 4-20, 22-36, and 38-53 are in condition for allowance.

The following comments address all stated grounds of rejection. The Applicants urge the Examiner to pass the claims to allowance in view of the remarks set forth below.

Objection to Drawings

The Examiner objected to Figures 3-10 because the characters in the shaded area were not shown clearly. Applicants direct the Examiner's attention to the substitute Figures 3-10 submitted to correct the objection on June 9, 2004, and enclose a second copy of the June 9, 2004, substitute Figures 3-10.

Claim Rejections under 35 USC § 103

Claims 1, 2, 4-20, 22-36, and 38-53 stand rejected under 35 U.S.C § 103. For ease of the discussion below, each claim rejection under 35 U.S.C § 103 is discussed separately.

I. Claims Rejected under 35 U.S.C § 103(a) as Unpatentable over Young in view of Weitz, and further in view of Lannert

Claims 1-2, 4-9, 11-20, 22-27, 29-36, 38-43, and 45-53 stand rejected under 35 U.S.C § 103(a) as being unpatentable over Young et al. ("A Knowledge Based Electronic Information and Documentation System", ACM, January 2000) ("Young") in view of Weitz ("SGML nets: Integrating Document and Workflow Modeling", IEEE, 1998) ("Weitz"), and further in view of Lannert et al (U.S. Patent 6,101,489) ("Lannert"). Applicants respectfully traverse this rejection and contend that Young in view of Lannert fails to detract from the patentability of claims 1-2, 4-9, 11-20, 22-27, 29-36, 38-43, and 45-53.

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Summary of Young

Young describes a knowledge-based documentation automation system, part of a larger owledge-based system called SciNapse, which helps automate the generation of electronic ebooks (Page 280, Column 1, Paragraph 1, Lines 1-3). These electronic notebooks are of two ds: reference materials and reports (Page 280, Column 1, Paragraph 1, Lines 10-11). ference materials are generated from the knowledge base and the reports from instances ated by a run of the SciNapse system (Page 280, Column 1, Paragraph 1, Lines 10-11 and 15-).

Young describes a run of the system as transforming an input specification into numerical le (Page 280, Column 1, Paragraph 1, Lines 16-19). The resulting numerical code is referred as an instance created by a run of the system. This transformation, or instance, is not a ulation of a simulation model but a process of taking an input specification of a problem and verting it into an executable numerical program representing the problem (Page 280, Column Paragraph 1, Lines 5-7; Page 280, Column 2, Paragraph 1, Lines 3-5). Reports generated by transformation process document the transformations to help a user understand how Napse transformed the input specification (Page 280, Column 1, Paragraph 1, Lines 15-19).

Summary of Weitz

Weitz discusses the use of SGML (Standard Generalized Markup Language) to integrate ument and workflow modeling. The article discusses the use of Document Template initions (DTDs) to define a set of reporting components that facilitate document processing ations using the logical tree structure of a document. The report components may be mbled into a report template. Weitz discusses the intermediate presentation of a report that then be generated in a number of different formats. Weitz does not discuss the generation report during a simulation and/or prior to completion of a simulation. It also does not ss the bi-directional communication between the report generation process and a simulation cient to dynamically control aspects of the simulation for the purpose of the report. Weitz is arily directed to the manipulation and formatting of documents

Weitz introduces the use of SMGL nets for integrated document and workflow modeling. L nets are a variant of Petri nets, which is a well-established language for modeling system vior. SMGL, a generic markup language, is used with Petri nets to more tightly integrate

then passed to the simulation model and the Intelligent Coaching Agent (ICA). (See Lannert, column 93, lines 57-59). FIG. 47 illustrates that the values are only passed to the system dynamics engine when an activity is completed. (See Lannert, column 93, lines 53-55, and FIG. 47). In contrast, the claimed invention includes generation of a report from report components during execution of the simulation. Since the output is not passed to the engine until after an activity is completed, Lannert does not teach or suggest communication with a simulation of a model during execution of the simulation.

The Applicants respectfully disagree with the Examiner's characterization of Lannert in the last Office Action. The Examiner states that Lannert teaches user interface components configured to define an operation to communicate bi-directionally with a simulation of a model during an execution of the simulation, as that allows the user to control the simulation by passing inputs into the simulation and receiving outputs from the simulation. (See Current Office Action, page 5). Lannert discusses an Intelligent Coaching Agent (ICA), which analyzes inputs and outputs to the simulation model and generates feedback based on a set of rules. (See Lannert, col. 11, lines 35-38). Lannert also includes a system dynamics engine that reads cells within a simulation model and passes the values to the system dynamics model and the ICA. (See Lannert, col. 93, lines 41-43). After the system dynamics model runs the information, the engine reads the output values and then passes the output values to the simulation model, which analyzes the output values and passes its results to the ICA. (See Lannert, col. 93, lines 43-45, 60-64).

Lannert, however, fails to provide the element of bi-directional communication with a simulation of a model during an execution of a simulation. Output values of cells are only available after the simulation(s) have completed. (See Lannert, col. 93, lines 43-45, 60-64). Even combining the Young element of report generation with the Lannert system, for the sake of argument, the reports could only be generated after the simulation runs, because only then will the output become available. Therefore, Lannert fails to teach or suggest communication with a simulation during an execution of a simulation.

The Examiner admitted that Young does not teach a system comprising a technical computing environment, a model simulator, and a report generator executing within an operating environment provided by a computer. (See Current Office Action, page 4). Since

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Lannert also fails to teach or suggest each and every element of the claimed invention, the combination of Young and Lannert also fails to teach or suggest the claimed invention.

B. Non-obviousness of Claims Dependent from Independent Claims 1, 19, and 35

Independent claims 1, 19, and 35 are directed to a set of reporting components that bi-directionally communicate with a computing environment during a simulation of a simulation model. As discussed above, Young in view of Weitz, in further view of Lannert, does not teach or suggest a set of reporting components that bi-directionally communicate with a computing environment during a simulation of a simulation model. As such, Applicants contend that independent claims 1, 19, and 35 are patentable and in condition for allowance. Therefore, claims dependent on independent claims 1, 19 and 35 are patentable and in condition for allowance.

Regarding claims 38-43, 45, and 49, the Examiner rejects the claims as unpatentable over Young, Weitz, and Lannert. Each of these claims includes the element of a generation engine initiating one of the reporting components configured to perform the operation of issuing commands to the computing environment. Lannert fails to teach or suggest a generation engine initiating reporting components, configured to perform the operation of issuing commands. The Examiner states that Lannert teaches such a generation engine since Lannert discusses loading a simulation and having an Intelligent Coaching Agent (ICA) analyze inputs and outputs to and from the simulation. (See Current Office Action, page 7). However, passing an input to a simulation and receiving an output after simulation does not teach or suggest initiating a component, which modifies an operational parameter or a condition of the simulation, as required by the rejected claims.

The claimed invention discusses initiating a reporting component, which is configured to perform the operation of issuing commands to the computing environment in order to modify or reconfigure, extract data from or request data about an operational parameter and an initial condition of the simulation of the model. Lannert fails to teach or suggest the claimed invention because Lannert does not have an element configured to issue commands to manipulate operational parameters. Lannert provides feedback after an element (the ICA) analyzes inputs to a simulation and outputs from a simulation, but the feedback does not issue

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any commands regarding an operational parameter or of an initial condition of the simulation of the model. Therefore, Lannert does not teach or suggest the claimed invention.

Young, Weitz, and Lannert each fail, alone and in combination, to teach or suggest reporting components bi-directionally communicating with a computing environment during a simulation of a simulation model. Therefore, Applicants contend that Young in view of Weitz, in further view of Lannert, fails to detract from the patentability of independent claims 1, 19, 35, and 53. Accordingly, Applicants respectfully request the withdrawal of the Examiner's rejection of claims 1, 2, 4-20, 22-36 and 38-53 under 35 U.S.C. §103.

II. Rejection of Claims pursuant to 35 U.S.C. §103 as being unpatentable over Young et al in view of Weitz in further view of Lannert et al in further view of Skidmore et al

The Examiner rejected claims 10, 28 and 44 as being unpatentable over Young in view of Weitz in further view of Lannert, in further view of Skidmore et al ("A Prototype Notebook-Based Environment for Computational Tools", IEEE 1998, hereafter "Skidmore"). In light of the remarks below, Applicants believe claims 10, 28 and 44 to be in condition for allowance.

Summary of Skidmore

The Skidmore reference describes the Virtual Notebook Environment (ViNE). ViNe is platform independent web-based interface implemented across distributed platforms. It provides a web based version of a common lab notebook and additional support for collaboration and management of computational experiments. The reference does not discuss the elements required by the independent claims of the present invention that were noted as missing from the Young, Weitz and Lannert references.

A. Non-obviousness of Claims Dependent from Independent Claims 1, 19, and 35

Independent claims 1, 19, and 35 are directed to a set of reporting components that bi-directionally communicate with a computing environment during a simulation of a simulation model. As discussed above, Young in view of Weitz, in further view of Lannert, does not teach or suggest a set of reporting components that bi-directionally communicate with a

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computing environment during a simulation of a simulation model. As such, Applicants contend that independent claims 1, 19, and 35 are patentable and in condition for allowance. Therefore, claim 10 dependent on independent claim 1, claim 28 dependent on independent claim 19 and claim 44 dependent on independent claim 35 are patentable and in condition for allowance.

B. Non-obviousness of Dependent Claims 10, 28, and 44

Young in view of Weitz, in further view of Lannert, in further view of Skidmore does not teach or suggest each and every feature of claims 10, 28, and 44. Claims 10, 28, and 44 recite the feature that processing the reporting components includes issuing commands to the computing environment to simulate the model. As the Examiner admits in the Office Action, Young in view of Weitz do not teach or suggest each and every limitation in claims 10, 28, and 44. As discussed above, Lannert does not teach or suggest the element of a reporting component issuing commands to a computing environment. The Examiner cites Skidmore for the purpose of suggesting that one ordinarily skilled in the art might modify Young in view of Weitz, in further view of Lannert to include the features cited in claims 10, 28 and 44.

Skidmore fails to teach or suggest the claimed invention. Skidmore discusses the use of abstract entities called leaves, which comprise a web server and a communication server, called a stem server. (See Skidmore, page 5, paragraph 3). Stem servers communicate with each other, sending requests to other stem servers across a network. (See Skidmore, page 6, paragraph 4). Skidmore does not teach or suggest the use of the communication server to issue commands to a simulation model of any type, or to otherwise directly or indirectly modify or reconfigure other elements. Skidmore discusses only the use of the communication servers to provide a library of communication method, packing and unpacking messages. (See Skidmore, page 5, paragraph 3). Therefore, Skidmore fails to teach or suggest an element issuing commands to the computing environment to simulate a model.

Additionally, Skidmore teaches away from Young. Skidmore describes a virtual notebook environment ("ViNE") to address integration concerns about inter-tool connectivity (Page 1, Paragraph 1). ViNE provides a framework for integrating existing tools, such as available electronic notebook generation tools, via an integration wrapper (Page 5, Paragraph 6, Line 1 to Page 6, Paragraph 1, Line 3). ViNE is focused on incorporating existing tools without

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requiring the user to learn new tools (Page 10, Paragraph 4, Line 5 to Page 11, Paragraph 1, Line 1). Young describes an electronic notebook generation tool that is the type of tool targeted to be integrated with ViNE as described in Skidmore. As such, Skidmore teaches away from modifying any existing electronic notebook tool, such as the one described in Young. Therefore, there is no suggestion or motivation in the teachings of the references or in the knowledge of one ordinarily skilled in the art, at the time of the claimed invention, to combine these references.

In light of the aforementioned arguments, Applicants contend that claims 10, 28 and 44 are patentable and in condition for allowance. Applicants therefore respectfully request the withdrawal of the Examiner's rejection of claims 10, 28 and 44 under 35 U.S.C. §103.

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CONCLUSION

In view of the remarks set forth above, Applicants contend each of the presently pending claims in this application are in immediate condition for allowance. Accordingly, Applicants respectfully request the Examiner to pass the claims to allowance.

If the Examiner deems there are any remaining issues, we invite the Examiner to call the Applicants' Attorney at the telephone number identified below.

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Respectfully submitted,
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